HYGIENE AND PUBLIC HEALTH

UNDER THE CHARGE OF
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The Schick Reaction.—Schick, of Vienna (*Münch. med. Wchnschr.*, November 25, 1913, 2608), and Park, of New York (Park, Zingher, and Serota, *Arch. Pediat.*, 1915, xxxi, 481) find that the blood serum of about 80 per cent. of the newborn, from 50 to 60 per cent. of children, and 90 per cent. of adults contains sufficient diphtheria antitoxin to protect them against diphtheria. A positive Schick reaction is sufficiently delicate to indicate less than $\frac{1}{30}$ of a unit of antitoxin in 1 c.c. of blood serum. Such persons are susceptible to diphtheria. The Schick reaction consists in injecting $\frac{1}{50}$ of a minimum lethal dose of diphtheria toxin for a 250-gram guinea-pig into the skin. Bundesen (*Jour. Amer. Med. Assn.*, 1915, lxiv, 1203) concludes as follows: (1) By means of the Schick test we are in a position to tell definitely who is susceptible to diphtheria and when an epidemic breaks out can inject those and those only, paying no further attention to the one giving a negative reaction. (2) By it the danger of cross-infection is greatly decreased. Children with diphtheria that have had scarlet fever and are therefore immune from scarlet fever can be placed in scarlet fever wards when the inmates yield negative Schicks, etc. (3) It permits a great reduction in antitoxin bills. Much needless pain and annoyance of patients is avoided and the possibility of anaphylactic shock is greatly minimized. Graef and Ginsberg (*Jour. Amer. Med. Assn.*, 1915, lxiv, 1205) conclude as follows: (1) The most susceptible age is between one and five years. (2) Immunity obtained by having the disease or by the use of immunizing doses of antitoxin lasts from a month to several years, varying greatly in different individuals and being very brief in children. (3) The Schick test is a helpful agent in testing the efficiency of immunization by antitoxin as well as the natural immunity existing in many persons. (4) It has helped to place on more certain grounds the assurance that bad cases of diphtheria should receive early and large doses of antitoxin by intravenous injections. Antitoxin is ten times as effective when so used, as compared with the ordinary methods of administration. (5) Park has obtained results in families showing a striking similarity in reactions to the test. If the youngest child of a family has a negative reaction, all the older children are likely to be negative, and if the older children are positive, the young ones are also. When variations are found, the younger children show the positive reaction. Moody (*Jour. Amer. Med.*

Assn., 1915, lxiv, 1206) concludes as follows: (1) The test is of definite clinical value in differentiating between persons who are susceptible to diphtheria and those who are not susceptible, and is therefore useful in determining which cases, of those to be placed in an environment where the liability to exposure is great, should be immunized. (2) It is of great value in differentiating between clinically doubtful cases of diphtheria, positive reactions being obtained in clinical cases, negative reactions in carriers. (3) It is useful in experimental work in determining the effects of various forms of immunization and the duration of immunity conferred by these methods. (4) It has a definite value in the handling of diphtheria epidemics in institutions. KOLMER and MOSHAGE (*Amer. Jour. Dis. Child.*, March, 1915) studied "The Schick Toxin Reaction for Immunity in Diphtheria," and summarize their observations as follows: (1) The toxin skin reaction is a valuable and reliable method for detecting susceptibility to diphtheria. (2) Persons reacting negatively to this test usually contain at least $\frac{1}{30}$ unit of diphtheria antitoxin per cubic centimeter of serum, and this amount of antitoxin is probably sufficient to protect against infection. (3) Persons reacting weakly or strongly positive usually contain less than $\frac{1}{30}$ of a unit of antitoxin per cubic centimeter of serum or none at all. These persons may be regarded as susceptible to diphtheria and in the event of exposure to infection should be passively immunized with an injection of antitoxin. (4) About 40 or 50 per cent. of children, ranging from one to fifteen years of age, react positively to the toxin test; this means that the preliminary use of the toxin test will eliminate the necessity of administering prophylactic doses of antitoxin to about 50 per cent. of children. (5) The toxin reaction indicates that the immunity conferred by an injection of antitoxin begins to disappear after ten days and has generally passed away entirely after four weeks. (6) The increased susceptibility of persons with scarlet fever to diphtheria is shown by the toxin reaction; even after the injection of antitoxin about 10 per cent. are susceptible within ten days. (7) According to the toxin reaction the immunity conferred by an attack of diphtheria is usually of short duration or entirely absent. (8) The most practical application of the toxin reaction consists in applying the test as a preliminary measure to all persons who have been exposed to diphtheria and immunizing only those who react positively.

Pellagra.—The Thompson-McFadden Pellagra Commission of the New York Post-Graduate Medical School and Hospital has just issued its second progress report, in which it presents data confirming the previous impression that the disease is communicable and in some way associated with insanitary methods of sewerage disposal. These conclusions are directly opposed to those of Goldberger, of the Public Health Service, whose studies led him to believe that pellagra is due to a faulty dietary. The conclusions of the Thompson-McFadden Pellagra Commission, consisting of J. F. Siler, P. E. Garrison and W. J. MacNeal, are as follows: (1) The large active foci of pellagra in Spartansburg County were found in and near the large centres of population, and particularly in the cotton-mill villages. (2) Children under the age of two, adolescents for about five years following puberty, and adult males in the active period of life were least frequently affected by pellagra. On the other hand, women from twenty to forty-four